What is Claimed is:

1. A method of vertically separating a thick wafer having a top surface and a bottom surface, the thick wafer being on a dice support, the method comprising:

aligning a first dicing tool for a first dice with the thick wafer adjacent to the top surface; dicing the thick wafer to create a first dice;

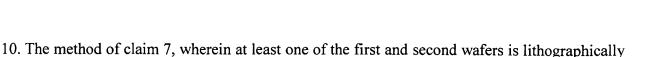
flipping the thick wafer so that the top surface is in contact with the dice support;

aligning a second dicing tool for a second dice with the composite wafer adjacent to the bottom surface of the thick wafer; and

dicing through the thick wafer.

- 2. The method of claim 1, wherein the first and second dicing tools are the same.
- 3. The method of claim 1, further comprising, after said dicing to create the first dice, bonding another wafer on top of the first dice.
- 4. The method of claim 3, further comprising, after dicing to create the first dice, aligning a third dicing tool for a third dice with the thick wafer adjacent to the another wafer and dicing to create a third dice.
- 5. The method of claim 4, wherein the third dice is created before the second dice.
- 6. The method of claim 4, wherein at least two of the first, second and third dicing tools are the same.
- 7. The method of claim 1, wherein the thick wafer includes a first wafer and a second wafer.
- 8. The method of claim 7, wherein the thick wafer includes a first wafer and a second wafer have different thicknesses.
- 9. The method of claim 7, wherein the first wafer and the second wafer are of different materials.

processed on a wafer level.



- 11. The method of claim 10, wherein at least one of the first and second wafers has a lithographically created optical element thereon.
- 12. The method of claim 4, further comprising, before said aligning of the first dicing tool, bonding the first and second wafers together.
- 13. The method of claim 12, wherein said bonding includes providing adhesive material between the first and second wafers.
- 14. The method of claim 12, wherein said bonding includes fusing the first and second wafers together.
- 15. The method of claim 12, further comprising, before said bonding, lithographically processing at least one of the first and second wafers.
- 16. The method of claim 15, wherein said lithographically processing includes creating an optical element.
- 17. The method of claim 1, wherein said aligning includes aligning the second dicing tool through the thick wafer to the first dice.
- 18. The method of claim 1, wherein said aligning includes aligning the second dicing tool to alignment marks on the thick wafer.
- 19. The method of claim 18, further comprising, prior to said aligning of the first dicing tool, creating alignment marks on the top and bottom surfaces of the thick wafer.